2015 Design Training Expo

Exclusive Transit Lanes Guidance

FDOT Public Transit Office

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Overview

- *Typical Sections for Exclusive Transit Running Ways*
  - Guide
  - Completed
- Statewide Lane Repurposing Review Process
  - Guide and procedure
  - In progress

Typical Sections for Exclusive Transit Running Ways

Purpose

- Provide typical sections and design guidance for exclusive transit running ways in Florida
- Lack of existing standards and guidance
- Reinforce/revise/inform FDOT policies and procedures related to transit facility design

Key Policies and Procedures

- Florida Statutes Section 335.02
  - Allows exclusive lanes on the State Highway System
  - FDOT "may establish standards for lanes on the SHS"
  - FDOT "must give consideration to ... multimodal alternatives [and] addition of special use lanes [and] the most effective use of existing rights-of-way"
- Florida Administrative Code Rule 14-20.003
  - Prohibits transit shelters in medians
  - FDOT is addressing this issue

Context

- The January 2015 *Plans Preparation Manual* (PPM) references *Typical Sections for Exclusive Transit Running Ways* as a guide that "is intended to be a starting point for designing exclusive transit running ways. Case-by-case evaluation of sites and corridors is essential in producing design drawings that are feasible and effective."
- Potential to include typical sections and/or design guidance in future edition of Florida Greenbook

Foundation for Typical Sections

- 2003 report by FDOT District 4
- Case studies of transit agencies with experience designing and operating exclusive transit facilities
- Review of recent literature
- Review of Florida exclusive transit facility projects
- Consistency with PPM, Florida Greenbook, and FDOT Design Standards to the extent possible

Eleven Running Way Types

- Description
- Considerations for planning, design, and operations
- Considerations for intersections
- Typical section
  - Transit lanes, general lanes, bike lanes, sidewalks, delineation/separation, station/stop areas, and medians
  - Preferred and constrained dimensions

Concurrent Flow Curb Bus Lanes

New York City

Las Vegas

Photo sources: Kittelson & Associates, maps.google.com

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Concurrent Flow Curb Bus Lanes

DESIGNATION	DESCRIPTION	DIMENSION (FEET)		NOTES
		PREFERRED	CONSTRAINED	
A	BUFFER	2'	1'	2' utility area should be accounted for behind sidewalk per all FDOT typical sections from PPM, Volume 2,Chapter 6, that show sidewalks.
B	SIDEWALK	6'	5'	Minimum 5' wide sidewalk shall be separated by 2' buffer strip. 6' wide sidewalk can be used when sidewalk constructed adjacent to curb [PPM, Volume 1, Chapter 8]. 5' minimum sidewalk width complies with ADA standards.
C	BUFFER/ PLANTING STRIP	6'	0' to 6'	0' wide strip permissible when sidewalk is minimum 6' wide. Minimum of 2' can be used when sidewalk is 5' wide. Buffer width tied to sidewalk width per PPM [PPM, Volume 1, Chapter 8]. Should be 6' wide where practical to eliminate need to narrow or re-route sidewalks around driveways. This wider strip places the sidewalk far enough back to not be affected by the driveway cross slope [Florida Greenbook, Chapter 8].
D	STATION	14'	8' to 14'	8' minimum width for station. Sidewalk of 5' or 6' is preferred with the station for total width of 14'. Note that typical section is showing station on right side of road. The typical section can be modified for a left-side station, two stations, or no stations. Total cross section width may vary depending on modification.
E	CURB AND GUTTER	2'	2'	Outside curb to be Type F curb and gutter [2'width - FDOT Design Standards, Index 300, and PPM, Volume 2, Chapter 6] on roadways with posted speed <45 mph. Type E curb can be used in special cases for roadways with a posted speed >45 mph. See PPM Volume 1, Chapter 2, for guidance on curb usage with roadways >45 mph.
F	BIKE LANES	5'	4' to 5'	4' width minimum. 5' width minimum if adjacent to barrier or if the bike lane is between bus lane (G) and travel lanes (I) [PPM Volume 1, Chapter 8]. Note that the bike lane (F) can be placed between the bus lane (G) and general travel lane (I) instead, which would eliminate the need for the separator (H). Designers should consider safety, volumes, etc. when placing bike lane.
G	BUS LANE	12'	11'	Preferred and constrained widths reflect 2012 interviews with and case studies of bus rapid transit systems in the U.S. and *Integrating Transit into Traditional Neighborhood Design Policies - The Influence of Lane Width on Bus Safety*.
H	SEPARATION	1'	6"	1' minimum preferred and 6" constrained based on case studies. Wider separation and/or concrete mountable separators may be warranted based on site-specific conditions and needs. If concrete separator is to be used, refer to FDOT Standard Index 302. These mountable separators can have widths of 4', 6',or 8'6".
I	TRAVEL LANE	12'	11'	From PPM, Volume 1, Chapter 2, lanes for arterials should be 12' wide but can be 11' wide if the facility is a SIS road and meets one of the conditions listed in the footnotes in Volume1, Chapter2, of the PPM.
J	MEDIAN	22'	15'6"	From PPM Volume 1, Chapter 2, median can be 10-12' wide if flush (painted) only on 5-lane sections where left turns need to be accommodated and speeds are <40 mph. If speeds are <45 mph and the median is raised, minimum width is 22'. This 22' median includes 2' 3" Type E curb and gutter on both sides. Minimum width on Urban Streets with speed limit of 45 mph or less is 15'6" from Chapter 3 in Florida Greenbook.

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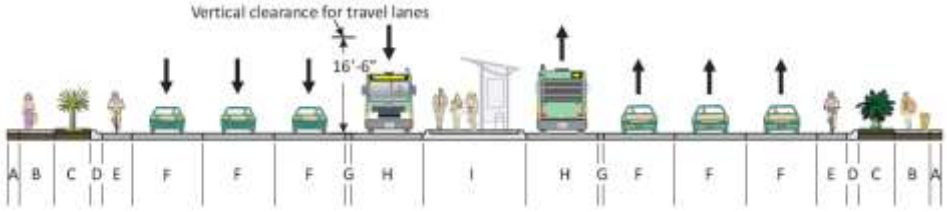
Concurrent Flow Median Bus Lanes



Cleveland

Eugene, OR

Photo sources: maps.google.com, Lane Transit District

Contraflow Bus Lane, 1-Way Street

Orlando

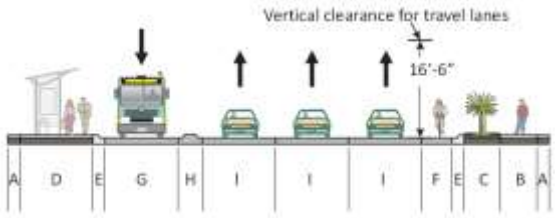


Photo source: Kittelson & Associates, Inc.

Two-Way Busway in Median


Eugene, OR


Las Vegas

Photo source: maps.google.com

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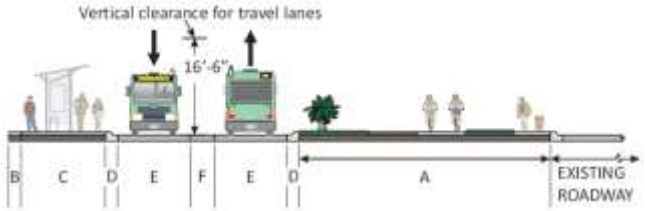
Exclusive Busway in Shared Right of Way




Miami

Photo source: maps.google.com

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Availability

http://www.dot.state.fl.us/transit/Pages/TypicalSectionsExclusiveTransitRunningways.pdf

For More Information

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Statewide Lane Repurposing Review Process

Definition

- Lane repurposing: converting through lanes to transit lanes
- Scenarios of interest
  - Business Access & Transit (BAT) lane
  - Exclusive transit lane
  - Part-time and full-time
  - Concurrent flow, contraflow, and reversible
  - Curbside and median

Examples

Orlando

Cleveland

Las Vegas

Staten Island

Kansas City

Photo source: maps.google.com

Project Goals

- Create process to support consistent and objective review of lane repurposing proposals on State highways
- Internal FDOT process
- Extensible to arterial managed lane and arterial freight lane proposals
- Develop sample Memorandum of Agreement (MOA)
- Address roles and responsibilities for maintenance, enforcement, etc.

Coordination

- District 4's ongoing Transit-Only Lane Repurposing effort (extending it to statewide application)
- Public Transit Office's *Typical Sections for Exclusive Transit Running Ways* guide (completed)
- Statistics Office's *Statewide Lane Elimination Guidance* (completed)
  - Impacts
  - Process

Project Tasks

- Kickoff
- Data gathering
- Literature review*
- Case studies*
- Process and sample MOA development
- Guidebook/report preparation

*built on previous work

Issues to be Addressed in Process and Sample MOA

- Timelines
- Required stakeholders
- Specific concerns
  - Many relevant to lane elimination (e.g., safety, level of service, and community support)
  - Others include enforcement, education, maintenance, access, specific operational needs, and specific implementation needs

Availability

Expected completion in August 2015

For More Information

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Questions?